Weekly report (2017-12-25 ------ 2017-12-31)

Dec 31th, 2017, 17:30 pm

1. Progress

Table 1. Progress

Tasks	IN PROGRESS	Date
dimension reduction	Run dataset	12.30
*2Vec survey		1.30
statistic charts survey		--

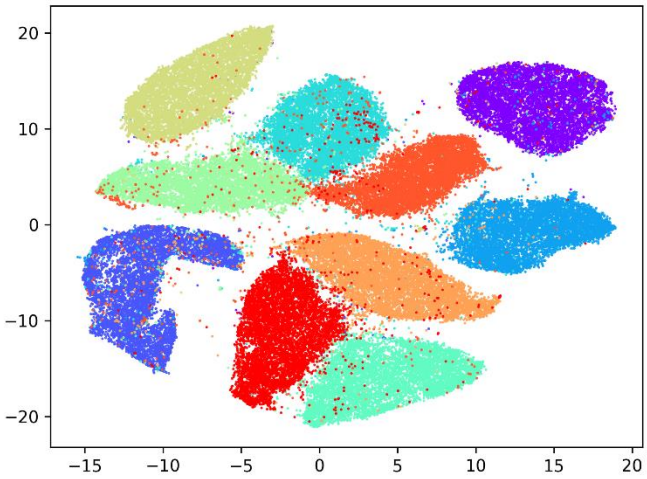
2. Work

Test the datasets of MNIST, Fashion-MNIST, CIFAR10, CIFAR100 and SVHN, on our project and LargeVis separately and compare their results. Wrote a shell script to run these datasets automatically.

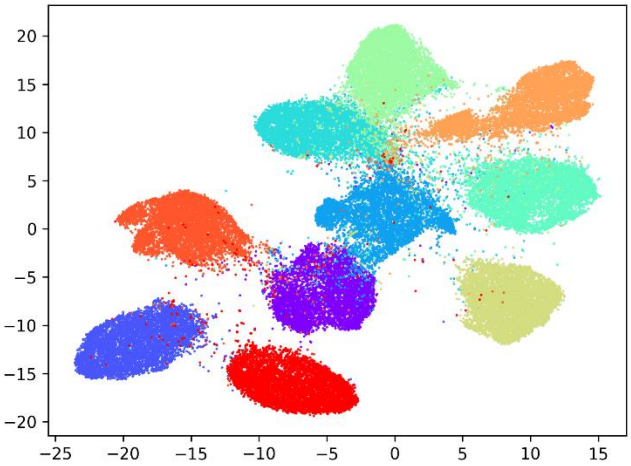
Our results:

Ours	knn		Embedding		total		
	real time	cpu time	real time	cpu time	accuracy	real time	cpu time
MNIST	48.605 s	378.801 s	50.193 s	343.878 s	93.40%	139.005000s	765.735815s
Fashion-MNIST	43.62 s	340.487 s	50.46 s	341.971 s	73.54%	134.197000s	725.194053s
CIFAR10	51.221 s	404.632 s	44.944 s	310.488 s	93.78%	143.108000s	763.373788s
CIFAR100	75.146 s	593.549 s	44.933 s	311.677 s	49.50%	166.209000s	953.143975s
SVHN	461.327 s	3244.86 s	946.766 s	1992.05 s	95.49%	3064.038000s	7056.844472s

Some results of ours:



MNIST



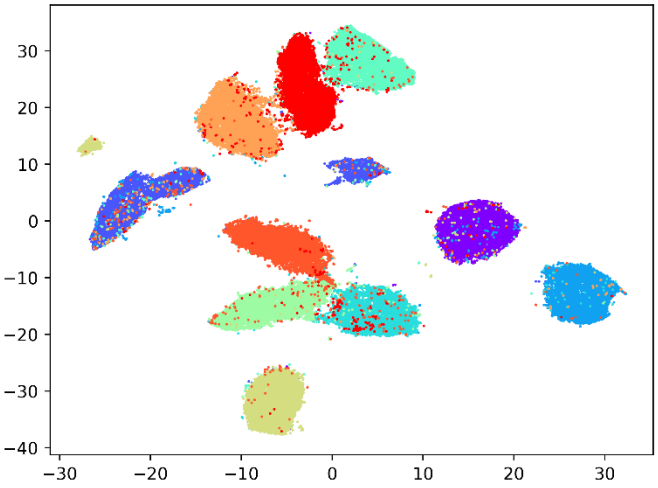
Cifar10

LargeVis results:

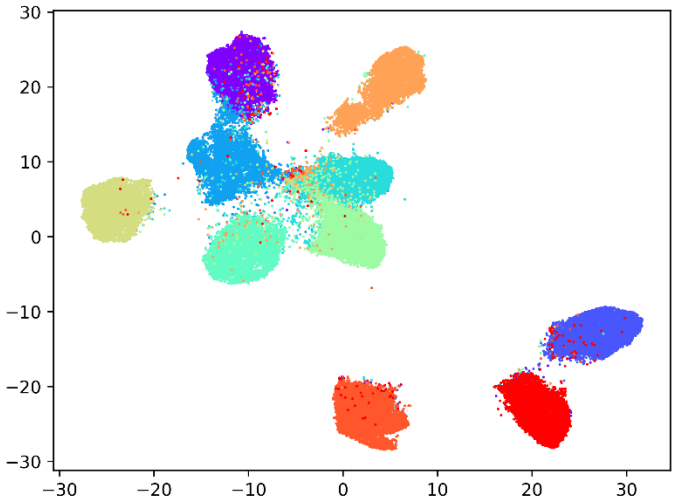
LargeVis	knn		visualize	
	real time	cpu time	real time	cpu time
MNIST	195.270996 s	1512.018188 s	404.769012 s	3017.114014 s
Fashion-MNIST	140.539993 s	1086.630371 s	400.084991 s	3024.914551 s
CIFAR10	225.957993 s	1770.652832 s	374.678009 s	2845.999023 s

CIFAR100	341.132996 s	2682.345703 s	375.911011 s	2842.921387 s
SVHN	2014.038940 s	15693.764648 s	1993.338989 s	15048.763672 s

Some results of LargeVis:



MNIST



Cifar10

3. To do

Use pytorch to train the datasets of ImageNet, and test the efficiency of these datasets on bh-SNE.